

Date: Thursday, 3/2/2006 3:08:17 PM  
User: Kim Johnston









# Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: BRACKET ASSEMBLY
Job Number	: 26040		
Estimate Number	: 10281	Part Number	: D3183043
P.O. Number	: N/A	Drawing Number	: D3183 REV C1
This Issue	: 3/2/2006 S.O. No. : N/A	Project Number	: N/A
Prsht Rev.	: NC	Drawing Revision	: C1
First Issue	: N/A Type : MACHINED PARTS	Material	: N/A
Previous Run	: 25556D	Due Date	: 3/26/2006 Qty: 4 Um: Each
Written By	: <u>SEE COMMENT BELOW</u>		
Checked & Approved By	: <u>06.03.02</u>		
Comment	: Est Rev: Pick A 04.02.18 New issue KJ/DS		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	M174B2000X01500	17-4 SS Bar
		
Comment: Qty.: 0.4812 f(s)/Unit Total: 1.9249 f(s) Material: 17-4 SS Bar per AMS 5604/5643 (M17-4-B1.500x02.000) Identify for D3183-043 Batch: <u>M15478</u> <u>24</u> <u>SD 06.03.13</u> <u>12</u> <u>En 06.03.06</u> <u>4</u>		
2.0	BAND SAW	BAND SAW
		
Comment: BAND SAW <u>1.500"</u> Cut blanks: <u>(1.000" x 2.000") 5.500" long</u> <u>En 06.03.06</u> <u>4</u>		
3.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
		
Comment: HAAS CNC VERTICAL MACHINING #1  1-Machine D3183-3 as per Folio FA322 and Dwg D3183 Identify as D3183-3  2-Deburr  3-Scribe batch number <u>SD 06.03.12</u> <u>4</u>		
4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
		
Comment: INSPECT PARTS AS THEY COME OFF MACHINE <u>SD 06.03.12</u> <u>4</u>		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: LD Date: 06/03/15  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
06.03.13	3	2 blanks (M14773/17-4SS bar 1.5 x 2.00) are too small in width and are loose in the vise causing the parts to lift. Short by .030 on the edge where the vise chatters.	<u>VB</u> <u>06.03.13</u>	1 blank scrapped in the hass, 2nd do not use. Ident. by AS too small. Replace the 2 blanks B# <u>M19478 x2</u>	<u>SD</u> <u>06.03.13</u>	<u>2</u> <u>06.03.13</u>	<u>VB</u> <u>06.03.13</u>	<u>2</u> <u>06.03.13</u>

NOTE: Date & initial all entries

Date: Thursday, 3/2/2006 3:08:18 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BRACKET ASSEMBLY

Job Number: 26040

Part Number: D3183043

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC8

SECOND CHECK



Comment: SECOND CHECK

En 06/03/14

4

6.0

D312121

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 8.0000 Each(s)

Pick:

Qty Part Number

Description Batch

2 D3121-21

Bolt

B25456

J.L/06/03/14

4

7.0

D3183045

Bearing Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 8.0000 Each(s)

Pick:

Qty Part Number

Description Batch

2 D3183-045 Bearing Ass

B25562

J.L 06/03/14

4

8.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Assemble D3183-043 as per Dwg D3183.

J.L 06-03-14

4

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

En 06/03/14

4

10.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: ST 4/2

CY 06/03/15

4

11.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

06/03/15

Job Completion



u 06-03-15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

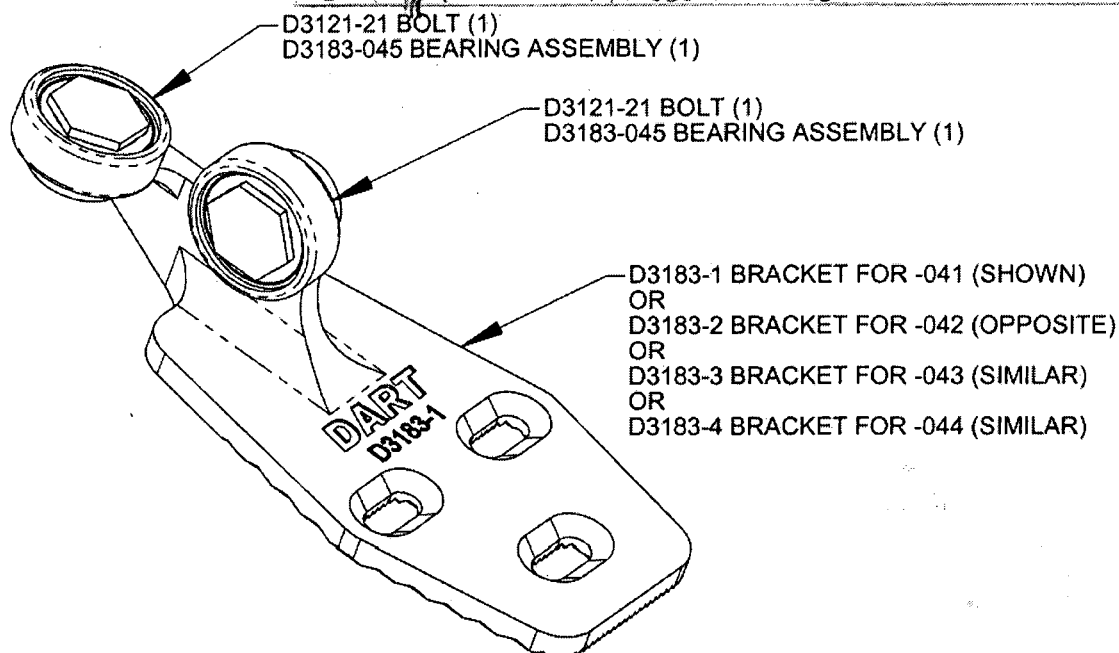
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

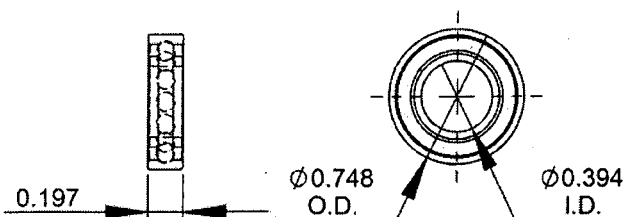


DESIGN #	DRAWN BY CP	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. <b>D3183</b>	REV. C SHEET 1 OF 4
DATE <b>04.02.17</b>		TITLE <b>BRACKET ASSEMBLY</b>	SCALE 1:1
A	03.01.24	NEW ISSUE	
B	03.06.17	REMOVE BEARING; 1.012 WS 0.882	
C	04.02.17	ADD -045/-9; 0.182 WAS 0.431	
CI	<del>04.11.09</del>	<del>0.830 WAS 0.850</del>	

RELEASED  
04.03.01

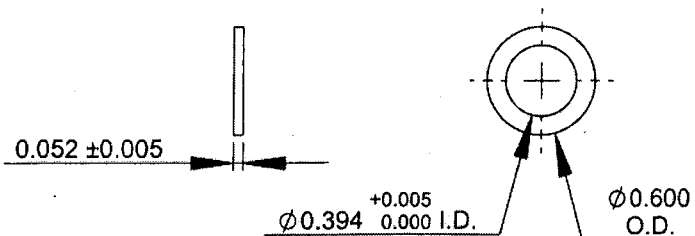


**D3183-041 BRACKET ASSEMBLY (SHOWN)**  
**D3183-042 BRACKET ASSEMBLY (OPPOSITE)**  
**D3183-043 BRACKET ASSEMBLY (SIMILAR)**  
**D3183-044 BRACKET ASSEMBLY (SIMILAR)**



**D3183-5 BEARING:**  
**SPECIFICATION CONTROL DRAWING**

- 1) SINGLE ROW, DEEP GROOVE, CONRAD TYPE, SHIELDED
- 2) POSSIBLE SUPPLIER: NSK P/N 6800ZZ
- 3) ALL DIMENSIONS ARE IN INCHES



**D3183-7 WASHER**

- 1) MATERIAL: AISI 303 ROUND BAR (M303R) ANNEALED
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES

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WITHOUT NOTICE  
WORK ORDER  
NO. 26040

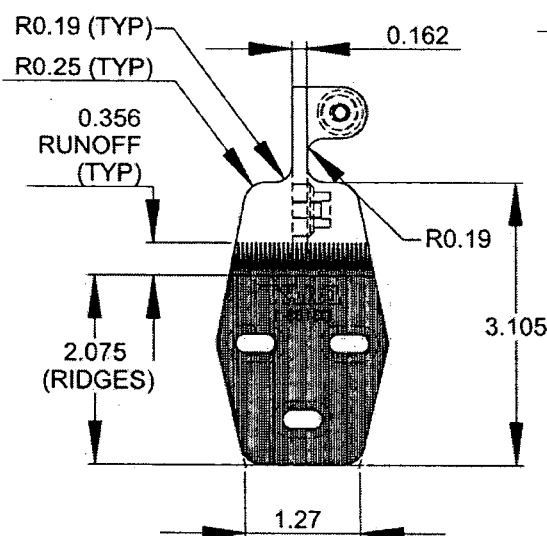
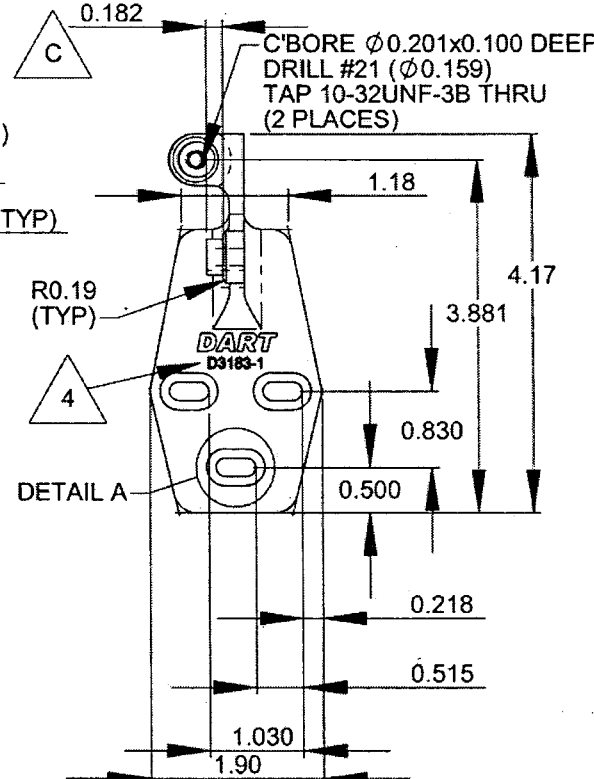
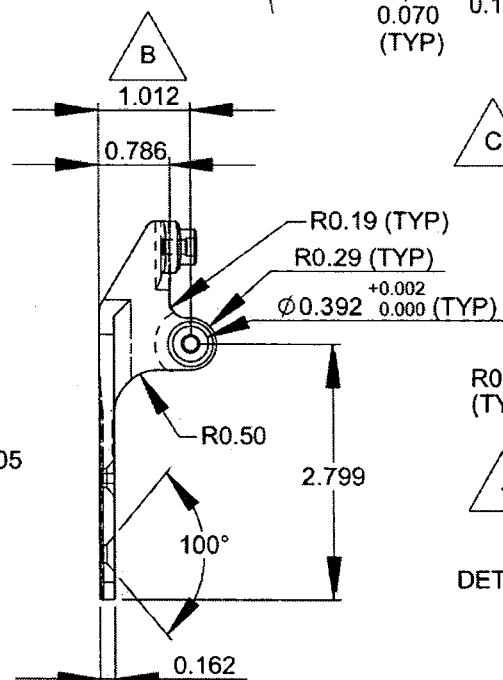
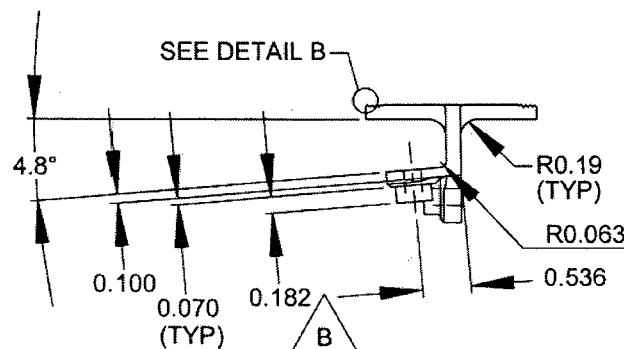
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DESIGN	DRAWN BY	DART Aerospace LTD
CHECKED	APPROVED	HAWKESBURY, ONTARIO, CANADA
DATE	TITLE	REV. C
04.02.17	D3183	SHEET 2 OF 4
	BRACKET ASSEMBLY	SCALE 1:2

RELEASED  
04.03.01



**D3183-1 BRACKET SHOWN  
D3183-2 BRACKET OPPOSITE**

- 1) D3183-1 CAN BE MADE FROM D3183-3  
D3183-2 CAN BE MADE FROM D3183-4
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643  
(REF DART SPEC. M17-4-B)  
MIN ULTIMATE STRENGTH = 150 ksi  
MIN YIELD STRENGTH = 100 ksi
- 3) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 4) ENGRAVE DART P/N & LOGO AS SHOWN
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

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WORK ORDER  
NO. 26040

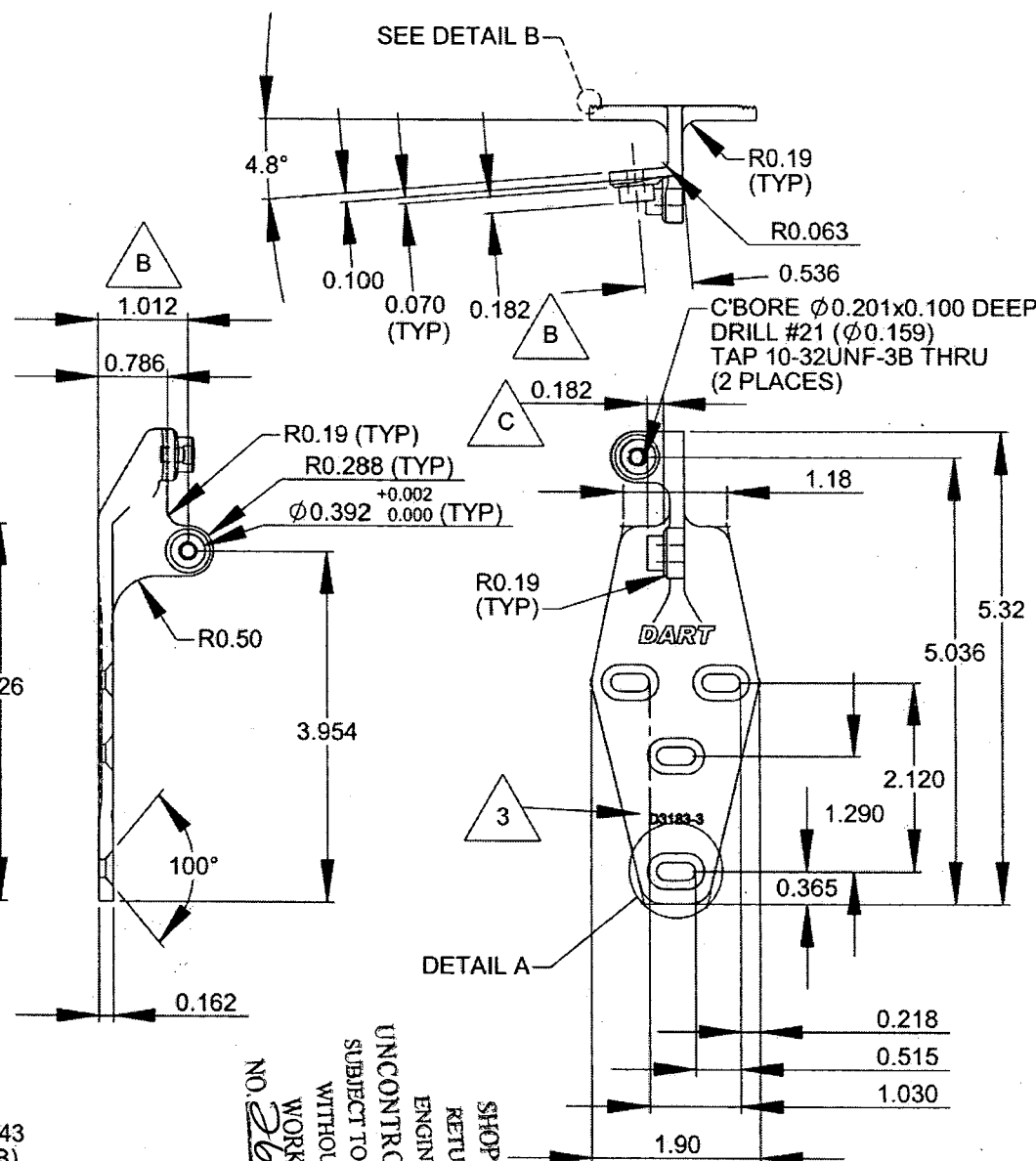
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# DART



DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	REV. C
CHECKED	APPROVED		
DATE	DRAWING NO.	D3183	SHEET 3 OF 4
04.02.17			
TITLE		BRACKET ASSEMBLY	SCALE
			1:2



D3183-3 BRACKET SHOWN  
(REPLACES BELL P/N 412-030-304-105)  
D3183-4 BRACKET OPPOSITE  
(REPLACES BELL P/N 412-030-304-106)

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)  
MIN ULTIMATE STRENGTH = 150 ksi  
MIN YIELD STRENGTH = 100 ksi
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 3) ENGRAVE DART P/N & LOGO AS SHOWN
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

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NO. 26040

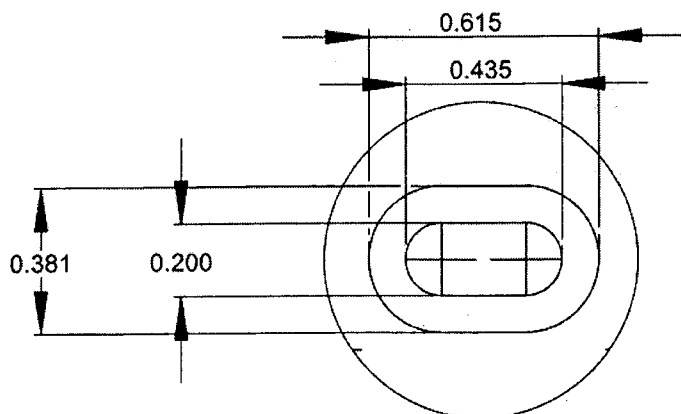
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24.03.01

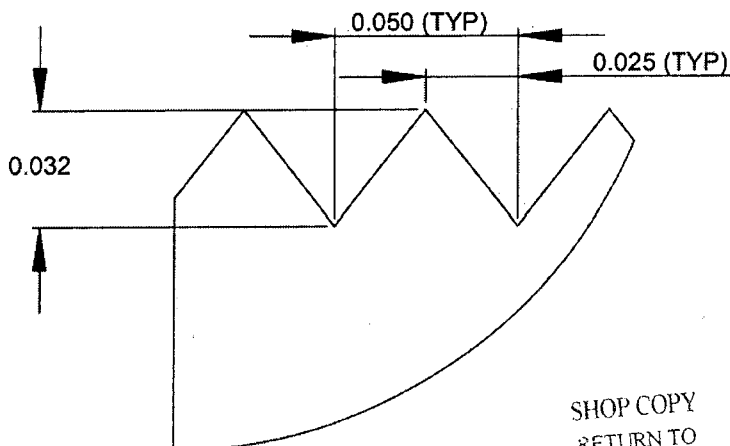


DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. <b>D3183</b>	REV. C SHEET 4 OF 4
DATE <b>04.02.17</b>		TITLE <b>BRACKET ASSEMBLY</b>	SCALE 1:1



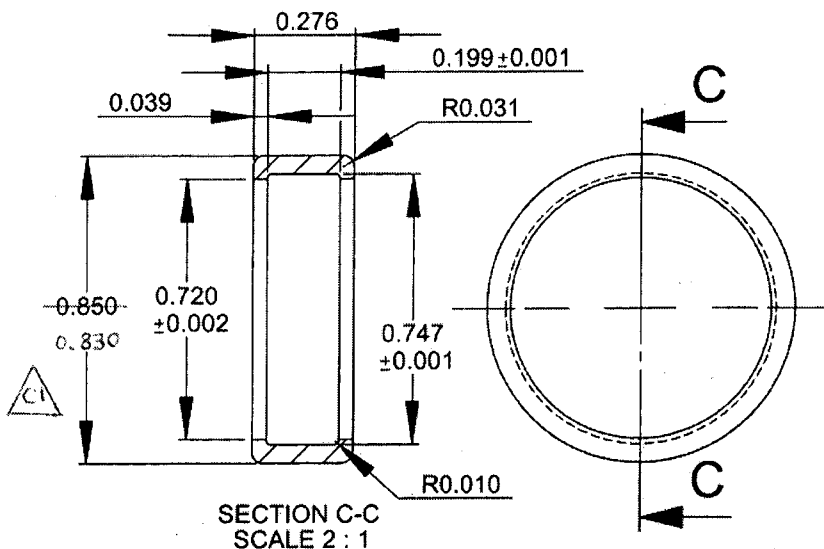
DETAIL A (2 : 1)

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04.03.01



DETAIL B (20 : 1)

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WORK ORDER  
NO. 26040



**D3183-9 CAP**

- 1) MATERIAL: DELRIN ROD, Ø1.00  
(REF DART SPEC. M-DELRIN-R1.00)
- 2) TOLERANCES ARE PER DART QSI 018  
UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

**D3183-045 BEARING ASSEMBLY**

- 1) ASSEMBLE D3183-5 BEARING AND  
D3183-9 CAP

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DART AEROSPACE LTD		Work Order:	
Description: Bracket		Part Number:	D3183-3
Inspection Dwg: D3183	Rev: C	Page 1 of 1	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
R0.190	+/-0.030	R.188	/			
R0.063	+/-0.010	R.063	/			
0.182	+/-0.010	.182	/			
0.070	+/-0.010	.070	/			
0.100	+/-0.010	.100	/			
Ø0.201 x 0.100	+/-0.010	Ø.201 x .100	/			
0.182	+/-0.010	.186	/			
5.32	+/-0.030	5.324	/			
5.036	+/-0.010	5.038	/			
2.120	+/-0.010	2.119	/			
1.290	+/-0.010	1.288	/			
0.365	+/-0.010	.366	/			
0.218	+/-0.010	.217	/			
1.030	+/-0.010	1.031	/			
1.90	+/-0.030	1.889	/			
1.012	+/-0.010	1.014	/			
Ø0.201 x 0.100	+/-0.010	Ø.203 x .100	/			
0.182	+/-0.010	.186	/			
0.786	+/-0.010	.789	/			
Ø0.392	+0.002/-0.000	Ø.392	/			
R0.19	+/-0.030	R.188	/			
3.954	+/-0.010	3.958	/			
0.162	+/-0.010	.163	/			
R0.19	+/-0.030	R.188	/			
R0.25	+/-0.030	R.25	/			
4.26	+/-0.030	4.265	/			
2.080	+/-0.030	2.080	/			
1.155	+/-0.010	1.155	/			Cannot measure accurately
0.162	+/-0.010	.163	/			
0.36	+/-0.030	.36	/			
0.615	+/-0.010	.613	/			
0.435	+/-0.010	.434	/			
0.200	+/-0.010	.202	/			
0.381	+/-0.010	.379	/			
0.032	+/-0.010	.033	/			

Measured by: SD	Audited by: 3m	Prototype Approval:	N/A
Date: 06.03.12	Date: 06.03.12	Date:	

Rev	Date	Change	Revised by	Approved
A	03.11.12	New Issue	KJ/RF	
B	04.03.15	Changes as per revision C	KJ/JLM/RF	

4.174

RELEASED

04.03.15